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The structure of character: On the relationships between character strengths and virtues

Willibald Ruch, Fabian Gander, Lisa Wagner, & Fiorina Giuliani

Author Notes

Willibald Ruch, Fabian Gander, Lisa Wagner, and Fiorina Giuliani are at the Department of Psychology at the University of Zurich, Switzerland.

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Correspondence concerning this article should be addressed to Willibald Ruch, Section on Personality and Assessment, Department of Psychology, University of Zurich, Binzmühlestrasse 14 Box 7, 8050 Zurich, Switzerland, E-mail: w.ruch@psychologie.uzh.ch

Abstract

Character strengths are morally valued trait-like personality characteristics contributing to fulfillments that comprise the good life, for oneself and for others (Peterson & Seligman, 2004). In two studies, we tested the assignment of the 24 strengths of the VIA classification to the 6 virtues. In Study 1 ($N = 225$), participants gave descriptions of situations where they applied their highest strength in an excellent manner and rated these situations regarding the six virtues. In Study 2 ($N = 146$) participants judged the degree of each strength fulfilling the six functions associated with the virtues. The results converged with the theoretical model for most of the 24 character strengths. Additionally, we consider both dichotomous and polytomous assignments of strengths to virtues and compare the results with earlier findings and factor analyses of the VIA-IS. Further research using different approaches is needed for suggesting an alternative assignment of strengths to virtues.

Keywords: character strengths, virtues, VIA classification, VIA-IS, positive psychology

The structure of character: On the relationships between character strengths and virtues

Introduction

With the VIA Classification Peterson and Seligman (2004) introduced a model of character that entails both a vertical dimension, representing elements of the good character at different conceptual levels of abstraction (i.e., virtues, character strengths, and situational themes), and a horizontal dimension, distinguishing among different entries at each level of abstraction. Virtues – core characteristics valued by moral philosophers and religious thinkers – are most abstract and six are distinguished, namely wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. These virtues are considered to be universal. Character strengths are at the mid-level of abstraction and they are seen to be the psychological ingredients defining the virtues. At the horizontal level, 24 such character strengths are distinguished, such as humility, hope, or appreciation of beauty and excellence. Situational themes are the specific habits that lead people to manifest given character strengths in given situations (Peterson & Seligman, 2004). While their number will be high, their detailed study has not started yet.

Preceding this model four lines of developments occurred, namely (a) the process by which the entries (character strengths, virtues) were generated and their number was decided upon, (b) the generation of defining criteria for a character strength that allow to decide which candidate character strengths to include and which ones to exclude, (c) the decision on ways to classify the character strengths; i.e., illuminating how character strengths may be similar or dissimilar to each other, and (d) the postulates of how many character strengths need to be present to enable a virtue but also how the virtues together define the good character.

Regarding (a), the study of the virtue catalogues from different regions of the world covering two millennia helped to identify “core virtues” (see Dahlsgaard, Peterson, &

Seligman, 2005). Core virtues describe an abstract ideal encompassing a number of more specific virtues having a coherent resemblance to one another and that reliably can be subsumed under a recognizable higher-order category. Virtues that could not easily be classified within one core virtue category were considered distinct. The core virtues might differ in content across cultures and they are also not deemed to be equally ubiquitous. Justice and humanity made every tradition's list and were named explicitly; temperance and wisdom were next by emerging reliably explicitly in almost all cultures. Transcendence is rarely nominated explicitly, but inherent when higher meaning or purpose in life is talked about, be it religiously underpinned or not. Finally, courage is least ubiquitous; it is either explicitly nominated (on most lists) or missing even thematically from others (Dahlsgaard et al., 2005). The core virtues – also referred to as “High Six” – are also relevant for (c); i.e., the discussion of how character strengths are similar (or dissimilar) to each other (Peterson & Seligman, 2004).

For identifying the character strengths, there were several stages between a first list of characteristics that may be related to a “good life” to the final 24 entries, which actually often represented clusters of terms with “family resemblance”, i.e., they stem from different research traditions and share many common features but are not exact replicas of each other (e.g., hope, optimism, future-mindedness, future orientation). With the aim of being as exhaustive as possible, many sources were consulted including more traditional lists of character strengths and virtues to more mundane ones (e.g., statements of Boy scouts or attributes to the Klingon Empire; cf., Peterson & Seligman, 2004).

Regarding (b), the number of criteria increased from 7 to 10 (Peterson & Park, 2004; Peterson & Seligman 2004) and more recently 12 (Peterson & Park, 2009; see Ruch & Stahlmann, in press). Next to being trait-like and morally valued, the first criterion is especially important: “a strength contributes to various fulfillments that constitute the good

life, for oneself and for others” (Peterson & Seligman, 2004, p. 17). This central criterion highlights that predictive validity is paramount for a character strength. This criterion is also important when discussing (c), i.e., the ways of classifying character strengths.

Regarding (c), Peterson and Seligman (2004) write that the core virtues were used to organize the longer list of more specific character strengths. They write “In each case, we can think of several ways to achieve the general virtue, and our eventual measurement goal led us to focus on these more specific routes (what we term strengths) to the High Six. Thus, the virtue of ‘humanity’ is achieved by the strengths of kindness and generosity on the one hand versus loving and being loved on the other. The virtue of temperance similarly has several routes: modesty and humility, self-control and self-regulation, and prudence and caution. The practical implication of this classification is that it suggests which character strengths are similar and which are not” (Peterson & Seligman, 2004, p. 51). Thus, strengths are “processes or mechanisms [...] that define the virtues. Said another way, they are distinguishable routes to displaying one or another of the virtues” (p. 13). There is also an alternative and supplementary interpretation. They specify that character strengths that are similar to each other share a common function (p. 29-30). According to the authors (p. 29-30) wisdom and knowledge is composed of “cognitive strengths that entail the acquisition and use of knowledge”, while courage refers to “emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal” (see Table 1).

Insert Table 1 about here

Table 1 shows the 24 character strengths, their theoretical assignment to the core virtues, and the shared functions as suggested by Peterson and Seligman (2004). The assignment of character strengths to virtues is done preliminary and is subject to change. “We urge the reader not to be too concerned about the details of how we classified the 24 strengths

under the six virtues. We have not measured the virtues per se; they are too abstract and general. We measured only the strengths, and if the data suggest—for example—that playfulness belongs elsewhere because of its co-occurrence with other strengths, we will gladly move it“ (Peterson & Seligman, 2004, p. 30). Indeed, the only study conducted so far examining how prototypical a strength is for the virtues suggests that humor could be subsumed under humanity (Ruch & Proyer, 2015).

Regarding (d), Peterson and Seligman (2004) suggest that an individual will rarely display all character strengths assigned to one virtue – displaying one or two character strengths of a virtue is enough for saying that this individual possesses this virtue. Thus, to be considered of good character, an individual should display one or two character strengths of all virtue groups.

Lots of work is needed to provide empirical underpinning of the four points discussed above. While a rather large amount of research has been accumulated based on the VIA Classification, little attention has been paid to gathering data to test the underlying set of hypotheses. For instance, while the results presented by Ruch and Proyer (2015) suggest that all character strengths except humor surpass the threshold of being an acceptable marker for their assigned virtue, several character strengths were considered markers of more than one virtue (e.g., teamwork was a good marker for justice, but also for humanity). This raises the question whether a dichotomous assignment of character strengths to only one virtue each is appropriate or whether a polytomous assignment (i.e., assigning a strength to multiple virtues) would be more appropriate– a question that would be highly relevant for testing (d). At the same time, other authors have also raised concerns regarding the connection between character strengths and virtues and the classification of certain character strengths (Miller, 2019), suggesting the need of additional research to clarify these questions. Further authors have suggested addressing the question of structure by means of factor analytic approaches

(e.g., McGrath, 2014, 2015; Ng, Cao, Marsh, Tay, & Seligman, 2017; Ruch et al., 2010). We argue that this approach has its own merits but provides answers to a different question (see also Ruch & Proyer, 2015).

In the original publication, Peterson and Seligman (2004, p. 31) write "[t]he classification we present here is not a finished product, and we expect it to change in the years to come, as theory and research concerning character strengths proceed. After all, the DSM has taken more than 50 years to attain its current form. We anticipate that our classification of character strengths will similarly evolve, by adding or deleting specific strengths of character, by combining those that prove redundant, by reformulating their organization under core virtues, and by more systematically evaluating them vis-à-vis our 10 criteria". As also highlighted by McGrath (2019), the VIA Classification was conceptualized as a starting point and that the hypotheses presented in the classification are open for testing. Fifteen years after its publication, the VIA Classification has been proven useful in numerous studies, and several of the hypotheses mentioned in Peterson and Seligman (2004) have received empirical support. At the same time there are still many open questions. We argue that revisions of the existing model should be based on sound empirical research and confirmed in multiple studies using a broad array of methodological approaches.

The present study attempts to provide more data to allow deciding about the appropriateness of the assignments of character strengths to virtues as proposed by Peterson and Seligman. The work of Peterson and Seligman (2004) allows for empirically testing the relationships between character strengths and virtues in several ways to supplement the results reported so far (Ruch & Proyer, 2015).

Aims and overview of the present studies

We present two studies that examine the perceived relations between character strengths and virtues using two different approaches: Character strengths as alternative routes

to a virtue (Study 1) and the perceived functions of character strengths (Study 2) will be examined. The virtue of wisdom can be achieved through such character strengths as creativity, curiosity, love of learning, judgment, and perspective. Thus, specific behavioral acts of creativity, curiosity, or perspective should all be considered instances of the virtue of wisdom and knowledge. Study 1 will examine whether high scorers in these character strengths indeed show behavior that can be characterized with this virtue quality.

Further, despite these character strengths being distinct, they share that they involve the acquisition and use of knowledge (i.e., their function; see Table 1). Thus, creativity, curiosity, love of learning, judgment, or perspective should help for the acquisition and use of knowledge. Study 2 will examine whether these five character strengths are seen as cognitive strengths that entail the acquisition and use of knowledge; that is, more so than these character strengths display other functions that were ascribed to other virtues of the VIA Classification.

Taken together, and supplemented by the results of the study by Ruch and Proyer (2015), this will allow us to investigate the congruence of the postulates by Peterson and Seligman (2004) with the judgment of laypeople. The expected results are not meant to revise the classification at this point, but to start further research that might lead to the discussion whether the organization of character strengths under core virtues needs revision.

Study 1

Based on the VIA Classification one can postulate that the different character strengths should facilitate virtues selectively; e.g., that fairness should go along with more acts of justice, and curiosity should be more aligned to displays of wisdom and knowledge (Peterson & Seligman, 2004). While Ruch and Proyer (2015) examined the relationships of character strengths as abstract descriptions of generalized behavior with virtues, Study 1 focuses on specific displays of character strengths. We assumed that laypeople are able to

provide more valid judgments of specific behavior acts than of abstract concepts. Further, we assumed that a character strength should be possessed at least to a certain degree for allowing them to display it adequately. This should be the case for the highest-ranking strengths within a person (so called *signature strengths*).

Thus, Study 1 will look at recollections of specific character strengths displays for the highest-ranking character strength of a person. In order to allow for sampling a variety of behavior acts, we considered both excellent displays (i.e., in which the strength was shown to a very high degree), and typical, quotidian displays of character strengths. We assume that both types of displays of a strength will have virtuous appeal and that the nature of the virtue will be the one the VIA Classification predicts. If so, then having this strength indeed paves the road to a particular virtue.

Method

Participants

The sample consisted of $N = 225$ German-speaking participants (80.9% women, 18.7% men, 0.4% other/not specified), aged 16 to 76 years ($M = 33.81$, $SD = 17.96$). A large part of the sample (39.1%) held a degree from university or a university of applied sciences, while another 48.4% held a diploma that would allow them attending such universities. Fewer participants completed vocational training (8.9%), secondary education (2.7%), or did not graduate from school (0.9%). Overall, 43.1% of the sample were German, 41.3% were Swiss, 10.2% were Austrian, and 5.3% were citizens of other countries.

Instruments

The *Character Behaviors Task* asks participants to describe their behavior in two specific situations, in which they showed their highest character strengths (e.g., a situation in which a person showed the strength of creativity). Beforehand, participants completed an instrument for the assessment of character strengths (the VIA-IS; Ruch et al., 2010) for

determining their highest character strength (without informing them that it is their highest strength). Participants then received a description of this character strength (taken from Ruch and Proyer (2015); based on Peterson and Seligman's, 2004, descriptions) and were asked to list five specific situations in their life, in which they displayed this character strength in an excellent or outstanding way. In the next step, participants were asked to describe two of these examples in more detail. In order to facilitate recall and to obtain as detailed descriptions as possible, some questions were integrated into the instruction (i.e., Where did the situation take place? Who was there? What caused the situation, what was going on, which thoughts, feelings and motivations did you have? How did the situation end? How can someone recognize that you used the strength? What relevant behaviors have been shown to exert the character strength?). This procedure was repeated for situations in which participants showed the strength in a usual, typical way. Thus, each participant described a total of four situations (two examples for excellent and usual situations each). An example of a situation description for an excellent display of the character strength of love was (shortened): "When my dad moved out and didn't take care of his children anymore, my sister was very sad. In the beginning, she often had minor and major breakdowns, and was crying all the time. When I noticed this, I took care of her and tried to make her talk. I wanted to help my sister to get over it and talked a lot with her about getting older and about letting go of beloved habits. So I was often able to help her with her anguish, which has tremendously strengthened our relationship."

The *Virtue Judgment Instrument* asked participants to rate the behavior examples in the Character Behavior Task in terms of virtuousness (i.e., the degree of wisdom, courage, humanity, justice, temperance, and transcendence in these behaviors). Participants received definitions of the virtues (based on Ruch & Proyer, 2015) and were shown their previously provided description of their behavior again. They were asked to rate their behaviors on a

visual analogue scale ranging from 0 (= “the virtue is not shown”) to 100 (= “the virtue is shown to an extremely high extent”). The order of situations to be rated in the Virtue Judgment Instrument was randomized.

Procedure

According to the university guidelines, no ethics approval was required for this study. Participants were recruited via university mailing lists, psychology magazine websites, social platforms, and personal inquiry. Participants gave their written consent for participation and received partial course credit and/or an individual character strengths profile. Participants first completed the VIA-IS after which their data was automatically analyzed. Afterwards, they completed the Character Behavior Task and finally the Virtue Judgment Instrument.

Results

Descriptive analyses

Sample sizes, means, and standard deviations of the virtue ratings for all behavior descriptions are given in Table 2.

Insert Table 2 about here

For facilitating the interpretation of the ratings, we used a score of ≥ 50 as cut-off for being a marker of a virtue. As shown in Table 2, all character strengths fulfilled the cut-off for at least one virtue. It should be mentioned that several character strengths exceeded the cut-off value for more than one virtue: Eight character strengths (creativity, curiosity, love of learning, perseverance, kindness, teamwork, hope, and spirituality) marked two virtues, seven character strengths (perspective, zest, social intelligence, forgiveness, humility, appreciation of beauty and excellence, and humor) marked three virtues, two character strengths (love and fairness) marked four virtues, three character strengths (bravery, honesty, and gratitude) marked five virtues and one strength (leadership) marked all virtues.

Comparison with Peterson and Seligman (2004)

When comparing the character strengths that scored above the cut-off with the VIA Classification, most character strengths can be considered markers for the virtue they were assigned to by Peterson and Seligman (2004). Only prudence, hope, and humor did not reach the threshold for the virtue they were assigned to.

In further analyses, we compared the mean ratings of the virtue that corresponds to the character strength as suggested by the VIA Classification with the mean ratings across the other five virtues. For example, we tested whether in the situation depicting creativity the virtue wisdom and knowledge was rated higher than the mean of the other virtues (i.e., courage, humanity, justice, temperance, and transcendence). Results of the *t*-tests for dependent samples are given in Table 3.

Insert Table 3 about here

Table 3 shows that 14 of the 24 character strengths received higher ratings in the assigned virtue than in the mean of the other five virtues, $t(3-16) \geq 2.19$, $p \leq .045$, Cohen's $d_z \geq 0.55$. In contrast, the character strength of humor received lower ratings for the virtue as suggested by the VIA Classification than for the mean of the other five virtues, $t(5) = -10.46$, $p < .001$, Cohen's $d_z = 4.27$.

Since Ruch and Proyer (2015) already reported higher ratings for certain character strengths on other virtues than those suggested in the original VIA Classification (i.e., leadership received higher ratings on the virtue of courage, and teamwork, forgiveness, gratitude, and humor received higher ratings on the virtue of humanity), we repeated above-mentioned analyses when taking a potential re-classification of these character strengths as suggested by the findings of Ruch and Proyer (2015) into account. Our results suggested a better fit for teamwork, forgiveness and humor to this re-classified model; these character

strengths received higher ratings on the suggested virtue than on the averaged ratings of the other virtues (teamwork: $t(5) = 4.62, p = .006, d_z = 1.89$; forgiveness: $t(7) = 3.86, p = .006, d_z = 1.36$; humor: $t(5) = 4.11, p = .009, d_z = 1.68$).

Discussion

When individuals for whom a strength is signature-like (i.e., among the highest strengths within an individual) are asked to describe situations in which they displayed this character strength, these situations often contain the virtue the strength was assigned to. Thus, this is compatible with the view that character strengths are distinguishable routes to displaying one or another of the virtues. We do not illuminate how the character strengths are the psychological ingredients (i.e., a process or mechanism) that define the virtues – this would require a different study design –, but we replicate the postulated associations to a certain extent. Deviations from the expected pattern occur and these will be discussed together with the results of Study 2. The validity of the cut-offs for the virtues can be debated and also instructions or the rating procedure might have induced biases. For example, asking for who was present in the situation might have led to higher ratings for the virtue of humanity.

Study 2

In addition to descriptions of the six virtues (as used in Study 1), Peterson and Seligman (2004) characterized each group of character strengths with a common feature, which is assumed to be shared by all character strengths assigned to a virtue. All these features share that they are describing what purpose, or “function” (as used in the following), the respective group of character strengths serves (see Table 1). These functions allow for an alternative approach for evaluating the assignment of character strengths to virtues. In

comparison to Study 1, this approach has the additional advantage that it is not necessary to explicitly mention the virtues.

Thus, in Study 2 we aimed at exploring the assignment of character strengths to virtues in the VIA Classification by asking participants to what degree each of the 24 character strengths fulfills each of these functions. We expected the findings to be in line with the theoretical assumptions by Peterson and Seligman (2004), with some discrepancies expected for specific character strengths that have already been mentioned by Ruch and Proyer (2015). For example, we expected humor to better serve the function associated with the virtue of humanity (i.e., tending and befriending others) than the function associated with transcendence (i.e., forging connections to the larger universe and providing meaning).

Method

Participants

The sample consisted of $N = 146$ (86.3 % women) participants with a mean age of 28.05 years ($SD = 13.66$, ranging from 16 to 71 years). Participants were only included if they gave informed consent to participate, completed all ratings, and indicated a sufficient level of German language proficiency. Most participants (76.0%) indicated having a Swiss nationality, 17.8% were German, 1.4% Austrian, and 4.8% had other nationalities. The sample was highly educated: 20.5% had a university degree, 73.3% had a school degree that allowed attending university, 4.8% completed vocational training, and 1.4% had completed primary or secondary school.

Instruments

The adapted *Strength-Virtue Prototypicality Judgment Instrument* (Ruch & Proyer, 2015) assesses the extent to which the 24 character strengths were perceived as fulfilling each of the six functions associated with the virtues. For each of the 24 character strengths, participants were presented with a short description of the respective character strength

(taken from the *Character Strengths Rating Form*, CSRF; Ruch, Martínez-Martí, Proyer, & Harzer, 2014). An example of a description is: “Creativity (originality, ingenuity): Creative people have a highly developed thinking about novel and productive ways to solve problems and often have creative and original ideas. They do not content themselves with conventional solutions if there are better solutions.” Ruch and Proyer (2015, Study 1) demonstrated that these descriptions strongly overlap with the definitions of the character strengths, as well as the items and the labels in the VIA-IS. While the original version of the instrument required participants to rate character strengths with regard to their prototypicality for a virtue, the adapted version used in this study asked participants to rate the extent to which the respective strength fulfilled each of the functions associated with the six virtues suggested by Peterson and Seligman (2004; e.g., “entails the acquisition and use of knowledge” for the virtue of wisdom and knowledge). The response scale ranged from 1 = “does not fulfill this function at all” to 6 = “completely fulfills this function”. The order in which the character strengths appeared was randomized.

Procedure

No ethics approval was required for this study according to the university guidelines. The study was conducted online and participants were recruited mainly via university mailing lists and social media. After reading information about the purpose of the study, data privacy, and the voluntary nature of participation, they gave their informed consent to participate. The participants were not compensated but could obtain partial course credit.

Results

Descriptive analysis

The mean ratings and standard deviations of the extent to which each of the 24 character strengths were perceived to fulfill the six functions are displayed in Table 4.

Insert Table 4 about here

For facilitating the interpretation of the ratings, we applied cut-off scores for the ratings. While Ruch and Proyer (2015) used a score of ≥ 3.5 as cut-off for being a marker of a virtue, preliminary analyses revealed that the ratings in this study were on average one point higher ($M = 4.27$ in the present study vs. $M = 3.31$ in Ruch & Proyer, 2015); therefore, we adapted this cut-off and considered ratings of ≥ 4.5 as fulfilling the function.

As shown in Table 4, all character strengths fulfilled the cut-off for at least one function. For seven character strengths, one function exceeded the cut-off value; for ten character strengths, two functions exceeded the cut-off value; for five character strengths, three functions exceeded the cut-off value; while the character strengths of teamwork and perspective exceeded the cut-off values for four, and for all six functions, respectively.

Comparison with Peterson and Seligman (2004)

When comparing these findings with the VIA Classification, again most (i.e., 20 out of 24) character strengths exceeded the cut-off for the function they were theoretically assigned to. Exceptions were honesty, forgiveness, gratitude, and humor.

Further, we compared the mean rating of a strength (e.g., creativity) in the function suggested by the VIA Classification (e.g., the function of wisdom and knowledge: “cognitive strengths that entail the acquisition and use of knowledge”) with the mean ratings across the other five functions (e.g., the functions of courage, humanity, justice, temperance, and transcendence). Results of *t*-tests for dependent samples are given in Table 5.

Insert Table 5 about here

Table 5 shows that 21 of the 24 character strengths received higher ratings in the function of the assigned virtue than in the other five functions, $t(145) \geq 2.20$, $p \leq .030$, Cohen’s $d_z \geq 0.18$. In contrast, three character strengths (honesty, forgiveness, and humor)

received lower ratings for the functions as suggested by the VIA Classification than for the other five functions, $t(145) \geq -2.49$, $p \leq .014$, Cohen's $d_z \geq 0.21$.

Again, we repeated these analyzes when comparing the ratings with the assignment of character strengths to virtues suggested by the results of Ruch and Proyer (2015; i.e., re-assigning the character strengths of teamwork, leadership, forgiveness, gratitude, and humor). Results suggested a good fit for all these character strengths to this re-classified model; all character strengths received now higher ratings on the suggested function than on the averaged ratings of the other functions (teamwork: $t = 8.46$, $p < .001$, $d_z = 0.70$; leadership: $t = 5.91$, $p < .001$, $d_z = 0.49$; forgiveness: $t = 13.93$, $p < .001$, $d_z = 1.15$; gratitude: $t = 21.95$, $p < .001$, $d_z = 1.82$; humor: $t = 17.18$, $p < .001$, $d_z = 1.42$, all df s = 145).

Discussion

Study 2 showed that character strengths seem – when judged by laypeople – to go along with specific functions. While the design of Study 2 allowed us to examine the assignment of character strengths to virtues without explicitly referring to virtues, one might argue that the data in Study 1 might be biased by naïve ideas of character strengths and their potential functions or benefits. Thus, a more stringent design for a future study would not only rely on evaluations of the abstract concepts but also test whether those people who score high in character strengths such as creativity, curiosity, or perspective also more often acquire or use knowledge than those with low scores in these character strengths.

Nonetheless, we tentatively conclude that the six functions studied might represent the shared aspects of those character strengths assigned to one virtue; this further corroborates the notion of character strengths as different routes to virtues. Further, when assigning strengths based on their fulfillment of the six functions, the assignment corresponded well with the VIA classification for most strengths, and even better with earlier findings from

Ruch and Proyer (2015; similarities and deviations from Study 1 and the VIA classification will be addressed in a later section).

Summarized Results

Overall Correspondence

For an overall estimation of the correspondence of our results with earlier findings, we correlated the matrix of the means (i.e., 24 character strengths \times 6 virtues) obtained in Studies 1 and 2 with the matrix of the means reported by Ruch and Proyer (2015) and the theoretical model suggested by the VIA Classification (coding the character strengths assigned to a virtue as 1 and the non-assigned as 0). Results suggested a fair correspondence between Study 1 and 2 ($r = .43$), as well as with the study by Ruch and Proyer (2015; $r = .68$ and $r = .72$) and the VIA Classification ($r = .38$ and $r = .50$).

Dichotomous Assignment

The present set of two studies used different methods to investigate the relationships between character strengths and virtues and adds to existing evidence (Ruch & Proyer, 2015). In an effort to synthesize the results of the two studies presented here as well as the results by Ruch and Proyer (2015), we also conducted joint analyses. For this purpose, we correlated the dichotomous assignments based on the highest rating (coding the virtue with the highest rating as 1 and the other virtues as 0) across the three studies (Studies 1 and 2, and Ruch and Proyer, 2015) and with the VIA Classification (coding the character strengths assigned to a virtue as 1 and the non-assigned as 0). Results showed a high correspondence between Study 1 and 2 ($r = .60$), as well as with the study by Ruch and Proyer (2015; $r = .75$ and $r = .85$) and the VIA Classification ($r = .55$ and $r = .70$). The number of converging dichotomous assignments across the three studies for individual strengths is provided in Table 6.

Insert Table 6 about here

As shown in Table 6, 16 of the 24 character strengths received the highest rating in the same virtue across all three studies, thus, when only allowing the assignment to one of the virtues, these character strengths would be assigned convergently in all the three independent studies. For 13 of these 16 character strengths, the assignment is identical to the original assignment by Peterson and Seligman (2004). Forgiveness (originally virtue of temperance), gratitude, and humor (both originally virtue of transcendence) were rated highest on the virtue of humanity across all three studies. For the remaining eight character strengths, there was a partial agreement across two of the three studies, which was in line with the original assignment for six of these. Only for teamwork (partial agreement on humanity instead of justice) and leadership (partial agreement on courage instead of justice) alternative assignments could be suggested based on the three studies.

Polytomous Assignment

Next, we examined the convergence across these three studies with regards to a polytomous assignment, that is, when allowing the assignment of character strengths to multiple virtues. For this purpose, we correlated the assignment matrices based on the cut-off values across Study 1, Study 2, and the study by Ruch and Proyer (2015). If the rating exceeded the set cut-off values of being a marker of the virtue in the respective study, it was coded as 1, otherwise it was coded as 0. A fair correspondence between Study 1 and 2 ($r = .32$), and with the study by Ruch and Proyer (2015; $r = .52$ and $r = .58$) was observed. The number of converging polytomous assignments across the three studies for individual strengths is provided in Table 7.

Insert Table 7 about here

As shown in Table 7, for all character strengths with one exception (prudence), there was at least one assignment to a virtue that converged across all three studies. Most (i.e., 15

out of 24) character strengths showed a clear pattern, that is, a perfect convergence was found for one virtue. Creativity and curiosity showed a converging assignment to both wisdom and courage, while perspective could be assigned to both wisdom and humanity. Several character strengths (i.e., honesty, social intelligence, teamwork, fairness) showed a converging assignment to both the virtues of humanity and justice. Leadership could be assigned to wisdom, courage, and justice; and prudence showed a partial agreement for both wisdom and temperance. Overall, it is noteworthy that for some character strengths (namely, perspective, honesty, leadership, forgiveness, and gratitude) five or even all six of the virtues exceeded the respective cut-off-values in at least one of the studies. When comparing with the VIA Classification, all strengths – with the exception of humor – showed at least a partial agreement, that is, converging assignments in two out of the three studies with the theoretically assignment by Peterson and Seligman (2004).

Comparison With Factor Analytic Studies

In a final step, we aimed at comparing the present results with results obtained by studying the factor structure of the VIA-IS. Assuming a dichotomous classification of character strengths (i.e., a strength belongs to only one virtue), we can derive predictions on which character strengths should belong to the same category. For example, based on the theoretical assumption of Peterson and Seligman (2004), zest should belong in the same category as honesty, and perseverance (i.e., the virtue of courage). These predictions on which character strengths should go together can be depicted in a matrix, where every combination of two character strengths is coded as belonging to the same category (=1) or not (=0), resulting in a matrix of 276 non-redundant cells $([24 \times 24 - 24] / 2)$. The same idea can be applied to results of factor analytic studies: Based on McGrath (2014) for example, zest should belong in the same category as hope, gratitude, spirituality, and love, since all these

character strengths had their highest loading on this factor (i.e., the factor of theological strengths).

We computed such tables for these predictions based on theory (Peterson & Seligman, 2004), empirical studies on assignment of character strengths to virtues (Study 1, Study 2, and Ruch & Proyer, 2015), and factor analytic studies. For the latter, we selected three empirical studies which have obtained either five (McGrath, 2014, in the English version; Ruch et al., 2010, in the German version) or three factors (McGrath, 2015) of character strengths. For determining the degree of similarity in the predictions across studies, we correlated the obtained matrix (i.e., all 276 non-redundant cells) among all studies (Table 8).

Insert Table 8 about here

Table 8 shows that there is a correspondence among predictions based on theoretical assumptions and empirical studies on character strengths-assignment (overlap ranging from $r = .26$ to $r = .72$), and a correspondence among factor analytic studies (overlap ranging from $r = .19$ to $r = .44$). However, the relationships between these two different approaches are negligible (median $r = .10$).

General Discussion

The present set of studies answers to the Peterson and Seligman (2004) statement that their VIA Classification presented in 2004 is not a finished product, but they expect it to change in the coming years. More specifically, they anticipated their classification of character strengths to evolve, by—among others—reformulating their organization under core virtues. The discussion on how to proceed regarding this matter has barely begun. This issue is implicitly there when factor analyses of the character strengths are performed and it is commonly expected that six factors emerge that represent the clusters of character strengths subsumed under a virtue. The assumption of a factor analytic approach is that the character

strengths, based on their co-occurring, add up to form a virtue, not that character strengths are different routes to virtue; i.e., enable virtuous behaviors. Factor analyses of character strengths yield character strengths factors, and these are broader than the individual character strengths (see Ruch & Proyer, 2015). While this is a meaningful endeavor, two potential caveats have to be mentioned. Firstly, the two different approaches yield answers to two different questions. While the approach pursued by Peterson and Seligman (2004) and in the present set of studies examines whether certain subsets of character strengths share core characteristics (such as their functions), factor analyses examine whether certain subsets of character strengths co-occur more often than others. The first approach might be preferable, when the question is “what are character strengths good for?” (i.e., criterion validity, see below), while the latter approach is more helpful when one is interested in parsimony, or the minimum number of factors that allow for a broad description of character. As shown in Study 2, there is a fair similarity of study results within these approaches, but little overlap between them.

Secondly, it bares the risk to start claiming that some character strengths are pure (i.e., have simple structure) whereas others are impure, or mixed (i.e., have double loadings in an arbitrary system) and hence may be neglected or dropped altogether. As stated in the introduction, character strengths were implemented as one root of the good life as they are expected to contribute to the various fulfillments that constitute the good life. Thus, character strengths considered to be more useful are the ones that predict more outcomes or predict them better and their training should also enhance this fulfillment. Therefore, criterion validity is essential and ideally each strength provides a unique contribution to predicting the good life.

Following the footpath of Peterson and Seligman (2004) the assumption in the present article was that the core virtues help organizing the list of 24 character strengths and

represent distinguishable routes to the core virtues (but do not define them when added up, as suggested by factor analytic approaches). We found a convergence between the two studies (“excellent use of a strength among those for whom this character strength is signature”; “perceived functions of character strengths”) and so a nucleus of findings is emerging for which further studies contribute.

The results of the present set of two studies can be looked at in at least two ways. Firstly, we can look at whether the character strengths received the highest rating for the respective virtue they were assigned to by Peterson and Seligman (2004). This interpretation operates under the assumption that a character strength is always linked with exactly one virtue, as suggested by the VIA Classification. In a nutshell, the results of both studies converged well and both also showed a relatively high, though not perfect, convergence with the proposed assignment in the VIA Classification. Considering also the earlier study (Ruch & Proyer, 2015), we can conclude that for a majority of the character strengths (i.e., curiosity, judgment, love of learning, perspective, bravery, perseverance, love, kindness, social intelligence, fairness, self-regulation, appreciation of beauty and excellence, and spirituality), there was perfect agreement that the assignment suggested by the VIA Classification is the best fit. For an additional six character strengths (creativity, honesty, zest, humility, prudence, and hope), two of the three studies corroborated the assignment. Thus, overall, using this (rather strict) criterion, the original assignment was supported for 19 of the 24 character strengths.

By contrast, three character strengths – namely forgiveness, gratitude, and humor – were consistently linked with a *different* virtue than the one assigned by Peterson and Seligman (2004). All three consistently exhibited the highest ratings for the virtue of humanity instead of temperance (for forgiveness) or transcendence (for gratitude and humor). In fact, all three of these deviations were anticipated by Peterson and Seligman (2004). They

wrote: “Forgiveness and mercy are a social strength, and we might decide eventually to classify this trait with other strengths of love such as kindness“ (p. 433) and “If gratitude and humor as character strengths play themselves out mainly between two people (and not between a person and larger world), they probably belong with the other strengths of humanity” (p. 519). Two additional character strengths – teamwork and leadership – were assigned mainly (in two of the three studies considered) to a different virtue than originally proposed, namely humanity (instead of justice) and courage (instead of justice), respectively. The distinction between humanity and justice has been described as relatively subtle as both clusters of character strengths are interpersonal in nature (“the difference is perhaps one of degree more than kind”; Peterson & Seligman, 2004, p. 357). Thus, these deviations certainly warrant future research.

Second, we can allow the possibility of a strength being linked with several virtues, as the results by Ruch and Proyer (2015) have suggested. When looking at the data in this way, we still find a fair level of correspondence between the three studies considered (even though the options for assignments increased markedly). Here, the majority of character strengths (judgment, love of learning, bravery, perseverance, zest, love, kindness, forgiveness, humility, self-regulation, appreciation of beauty and excellence, gratitude, hope, humor, and spirituality) displayed a perfect convergence in the assignment to one virtue – 11 of these assignments with perfect agreement on only one virtue concern the virtues proposed in the VIA classification. The exceptions include forgiveness, gratitude, humor (as already discussed for the dichotomous assignment). Additionally, hope was convergently assigned to the virtue of courage, although it showed a partial agreement on the virtue of transcendence in the dichotomous assignment. Seven additional character strengths showed a perfect and one strength a partial convergence concerning two virtues, while in all cases except for honesty these included the virtue originally assigned. Finally, leadership was consistently

assigned to three virtues (wisdom, courage, and justice). It is noteworthy that the most common co-occurrence of virtues appeared for humanity and justice, which might be explained by their shared interpersonal nature (cf., Peterson & Seligman, 2004: “both involve improving another’s welfare”, p. 37).

Of course, the results presented here need to be interpreted in light of some limitations. First, participants in both studies came from only one cultural background. Thus, our findings will need to be replicated in different cultures to test whether the relationships between character strengths and virtues are universal. If indeed, as suggested by Snow (2019), the functions of character strengths (and virtues) vary by culture, the study of these functions might be a good starting point to answer this question. Second, we presented multiple ways to interpret the data we obtained, linked them to previous results and checked whether the results converge across several studies, but ultimately many decisions in the interpretation of the data (such as the value of the cut-offs) remain somewhat arbitrary. Third, in Study 1, the ratings were obtained from the same person that described the situation, and it could be argued that a rating of an independent person would be more objective. In addition, the situations that were described are likely to not only reflect displays of the character strengths targeted, but also of additional character strengths as they are likely to co-occur in real life situations. It is conceivable that the display of certain character strengths covaries with the display of other character strengths from a different cluster, thus somewhat obscuring the virtue ratings. Fourth, in both studies, participants rated the virtues and functions, respectively, irrespective of their own levels in these character strengths. One might argue that individuals have a deeper knowledge about functions of their highest strengths than of their lowest strengths, what might affect their evaluations of virtuousness; this could be considered in future studies. In addition, the participants in Study 2 were laypeople. Even though Ruch and Proyer (2015) found no overall differences between the

ratings of experts and laypeople, it might be worthwhile to study different groups of experts who should possess rich knowledge on one of the core virtues. Finally, the present set of studies did not address what strengths have to be present to what degrees in order to consider someone of having a “good character”. Future studies might empirically examine the original idea (i.e., having one or two strengths of a virtue should be enough for a “good character”) and compare different models (i.e., the original model and re-classified models) of assignments of strengths to virtues, as well as different modes of assignment (i.e., dichotomous and polytomous assignments). Also, future studies might compare situation descriptions of groups having one to five strengths of a given virtue.

All in all, it is too early to speculate about changes in the VIA classification as the nucleus of our findings need to be supplemented by findings testing the statements presented in Peterson and Seligman (2004) by varying the method, type of data, but also the nature of samples and culture. We will need to have a discussion on what else may count as criterion to answer this question; what studies are needed? A more reliable assignment of character strengths to one (or more) virtues will not only help developing the conceptual foundations of the VIA Classification, it will also help guiding training programs that target virtue development.

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Table 1

Functions the Strengths of six Clusters Share/Representing Different Routes to the High six

	Strength cluster	Shared function	Core virtue/High six
1	Creativity, Curiosity, Judgment, Love of learning, Perspective	cognitive strengths that entail the acquisition and use of knowledge	Wisdom & knowledge
2	Bravery, Perseverance, Honesty, Zest	emotional strengths that involve the exercise of will to accomplish goals in the face of opposition, external or internal	Courage
3	Love, Kindness, Social intelligence	interpersonal strengths that involve tending and befriending others	Humanity
4	Teamwork, Fairness, Leadership	civic strengths that underlie healthy community life	Justice
5	Forgiveness, Humility, Prudence, Self-regulation	strengths that protect against excess	Temperance
6	Appreciation of beauty and excellence, Gratitude, Hope, Humor, Spirituality	strengths that forge connections to the larger universe and provide meaning	Transcendence

Table 2

Mean Virtue Ratings for the 24 Strengths in Study 1

	<i>N</i>	Wisdom		Courage		Humanity		Justice		Temperance		Transcend- ence	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Creativity	66	79	14	54	29	47	29	30	24	26	23	47	28
Curiosity	20	54	10	51	31	29	16	16	17	31	31	40	28
Judgment	29	62	35	36	20	42	25	37	22	30	21	35	36
Love of learning	52	67	25	57	27	39	30	27	30	25	28	35	23
Perspective	32	76	24	62	34	61	24	46	32	47	30	46	26
Bravery	13	55	18	72	34	68	24	55	30	54	36	29	16
Perseverance	42	54	23	54	31	31	28	24	26	37	25	22	21
Honesty	16	81	17	83	14	75	18	78	20	52	35	29	9
Zest	23	56	21	66	23	71	13	36	23	41	15	42	32
Love	65	58	33	53	29	88	15	63	23	47	29	47	32
Kindness	24	47	28	35	32	93	7	54	34	22	19	40	26
Social intelligence	48	66	26	49	29	79	20	53	28	40	23	44	39
Teamwork	24	48	20	47	20	75	18	55	24	33	26	26	26
Fairness	12	56	9	46	31	57	33	77	14	62	14	46	25
Leadership	28	77	17	73	21	86	15	69	24	55	33	55	33
Forgiveness	28	64	26	50	26	77	23	50	27	74	16	48	37
Humility	31	34	21	23	25	59	22	50	20	53	19	32	31
Prudence	75	65	22	43	31	38	30	32	28	38	28	27	25
Self-regulation	55	46	28	27	20	27	27	19	20	59	19	27	20
ABE	48	53	23	28	24	52	26	20	17	21	21	61	20
Gratitude	28	68	13	52	18	73	22	48	36	54	35	58	26
Hope	24	60	28	66	26	48	34	31	25	39	25	34	26
Humor	24	53	20	50	17	65	15	23	13	28	17	16	5
Spirituality	53	48	24	40	21	52	23	29	29	35	22	55	29

PERCEIVED UTILITY OF STRENGTHS

Note. *N* refers to the number of observations; each participant provided between 1 and 4 observations. ABE = Appreciation of Beauty and Excellence.

PERCEIVED UTILITY OF STRENGTHS

Table 3

Comparison of Ratings in the Virtue Suggested by Peterson & Seligman (2004) With the Averaged Ratings in the Other Virtues in Study 1.

	<i>df</i>	<i>t</i>	<i>p</i>	Cohen's <i>d_z</i>
Creativity	16	8.10	<.001	1.96
Curiosity	4	3.28	.031	1.47
Judgment	7	2.97	.021	1.05
Love of learning	12	6.09	<.001	1.69
Perspective	8	2.86	.021	0.95
Bravery	3	0.80	.482	0.40
Perseverance	10	2.33	.042	0.70
Honesty	3	3.67	.035	1.84
Zest	5	2.79	.039	1.14
Love	16	6.06	<.001	1.47
Kindness	5	6.60	.001	2.69
Social intelligence	11	5.13	<.001	1.48
Teamwork	5	1.85	.124	0.76
Fairness	2	3.09	.091	1.78
Leadership	6	0.07	.943	0.03
Forgiveness	7	1.90	.099	0.67
Humility	7	1.88	.102	0.67
Prudence	19	-0.56	.583	0.12
Self-regulation	13	4.04	.001	1.08
ABE	11	3.22	.008	0.93
Gratitude	6	-0.16	.879	0.06
Hope	5	-1.21	.281	0.49
Humor	5	-10.46	<.001	4.27
Spirituality	15	2.19	.045	0.55

Note. ABE = Appreciation of Beauty and Excellence. For the comparisons across strengths/within virtues all *dfs* = 201.

PERCEIVED UTILITY OF STRENGTHS

Table 4

Mean Virtue Ratings for the 24 Strengths in Study 2

	Wisdom		Courage		Humanity		Justice		Temperance		Transcendence	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Creativity	4.51	1.16	4.58	1.07	3.79	1.08	4.29	1.02	3.08	1.22	4.15	1.19
Curiosity	5.24	0.95	4.73	0.96	4.05	1.00	4.33	1.03	3.01	1.16	3.93	1.11
Judgment	5.42	0.67	4.55	1.04	3.86	1.11	4.47	1.05	4.60	1.17	3.75	1.19
Love of learning	5.62	0.69	4.86	0.93	3.52	1.04	4.08	1.12	3.55	1.16	4.21	1.23
Perspective	5.23	0.78	4.66	1.06	4.50	0.97	4.77	0.97	4.86	1.12	4.53	1.05
Bravery	3.64	1.31	5.12	0.84	3.75	1.02	4.21	0.98	3.33	1.31	4.07	1.16
Perseverance	4.44	1.17	5.46	0.74	3.30	1.00	4.11	1.14	3.73	1.18	3.58	1.13
Honesty	3.52	1.25	4.03	1.05	4.71	0.95	4.92	0.90	4.21	1.14	4.12	1.18
Zest	3.82	1.35	5.04	0.92	3.90	1.05	4.40	1.03	3.10	1.33	3.98	1.17
Love	2.79	1.18	4.10	1.21	5.81	0.43	5.03	0.96	3.95	1.23	4.82	1.02
Kindness	2.95	1.17	3.94	1.16	5.74	0.51	5.49	0.73	4.15	1.29	4.63	1.00
Social intelligence	4.21	1.26	4.37	1.16	5.45	0.72	5.18	0.86	4.23	1.19	4.18	1.14
Teamwork	3.97	1.14	4.50	0.99	5.12	0.76	5.51	0.65	3.96	1.16	4.83	0.95
Fairness	3.99	1.17	4.01	1.17	5.05	0.85	5.51	0.70	4.42	1.16	4.37	1.13
Leadership	4.66	0.96	4.72	1.06	3.81	1.09	4.66	0.99	3.82	1.19	4.10	1.26
Forgiveness	3.53	1.29	4.25	1.27	5.32	0.77	5.14	0.81	4.27	1.14	4.29	1.11
Humility	3.43	1.25	3.50	1.14	4.47	0.92	4.41	1.02	4.70	1.08	3.90	1.27
Prudence	4.12	1.27	3.23	1.24	3.50	1.10	3.60	1.15	4.97	1.11	3.00	1.15
Self-regulation	4.23	1.14	5.03	0.96	3.79	1.07	4.20	1.17	5.08	1.18	3.37	1.20
ABE	4.03	1.28	3.64	1.15	4.11	1.11	3.93	1.09	3.42	1.30	4.66	1.07
Gratitude	3.14	1.28	3.63	1.29	5.47	0.70	5.12	0.86	4.12	1.17	4.48	1.10
Hope	3.63	1.26	4.79	0.97	4.49	0.99	4.64	0.98	3.78	1.18	4.93	0.98
Humor	3.31	1.24	3.77	1.20	4.97	0.79	4.66	1.01	3.63	1.28	3.57	1.17
Spirituality	3.01	1.32	4.25	1.23	4.12	1.22	4.08	1.15	3.56	1.34	5.55	0.89

Note. *N* = 146. ABE = Appreciation of Beauty and Excellence.

PERCEIVED UTILITY OF STRENGTHS

Table 5

*Comparison of Ratings in the Virtue That was Suggested by Peterson & Seligman (2004)
With the Averaged Ratings in the Other Virtues in Study 2.*

	<i>t</i>	<i>p</i>	Cohen's <i>d_z</i>
Creativity	5.14	<.001	0.42
Curiosity	13.39	<.001	1.11
Judgment	15.92	<.001	1.32
Love of learning	19.43	<.001	1.61
Perspective	7.87	<.001	0.65
Bravery	15.50	<.001	1.28
Perseverance	21.10	<.001	1.75
Honesty	-3.07	.003	-0.25
Zest	15.52	<.001	1.28
Love	24.27	<.001	2.01
Kindness	24.22	<.001	2.00
Social intelligence	14.68	<.001	1.21
Teamwork	18.25	<.001	1.51
Fairness	16.51	<.001	1.37
Leadership	6.52	<.001	0.54
Forgiveness	-2.49	.014	0.21
Humility	8.27	<.001	0.68
Prudence	14.89	<.001	1.23
Self-regulation	10.32	<.001	0.85
ABE	9.46	<.001	0.78
Gratitude	2.20	.030	0.18
Hope	7.82	<.001	0.65
Humor	-5.68	<.001	0.47
Spirituality	19.51	<.001	1.61

Note. All *df*s = 145. ABE = Appreciation of Beauty and Excellence.

Table 6

Assignment to One Virtue: Convergence Across the Three Studies

	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
Creativity	2	1	0	0	0	0
Curiosity	3	0	0	0	0	0
Judgment	3	0	0	0	0	0
Love of learning	3	0	0	0	0	0
Perspective	3	0	0	0	0	0
Bravery	0	3	0	0	0	0
Perseverance	0	3	0	0	0	0
Honesty	0	2	0	1	0	0
Zest	0	2	1	0	0	0
Love	0	0	3	0	0	0
Kindness	0	0	3	0	0	0
Social intelligence	0	0	3	0	0	0
Teamwork	0	0	2	1	0	0
Fairness	0	0	0	3	0	0
Leadership	0	2	1	0	0	0
Forgiveness	0	0	3	0	0	0
Humility	0	0	1	0	2	0
Prudence	1	0	0	0	2	0
Self-regulation	0	0	0	0	3	0
ABE	0	0	0	0	0	3
Gratitude	0	0	3	0	0	0
Hope	0	1	0	0	0	2
Humor	0	0	3	0	0	0
Spirituality	0	0	0	0	0	3

Note. ABE = Appreciation of Beauty and Excellence. 3/0: Perfect agreement, all/none of the three studies (the two studies in the present manuscript and Ruch & Proyer, 2015) suggested this assignment; 2: Partial agreement, two out of the three studies suggested this assignment; 1: No agreement, one out of the three studies suggested this assignment.

Table 7

Assignment to Multiple Virtues: Convergence Across the Three Studies

	Wisdom	Courage	Humanity	Justice	Temperance	Transcendence
Creativity	3	3	0	0	0	0
Curiosity	3	3	0	0	0	0
Judgment	3	1	0	1	1	0
Love of learning	3	2	0	0	0	0
Perspective	3	2	3	2	1	2
Bravery	1	3	1	1	1	0
Perseverance	2	3	0	0	1	0
Honesty	2	2	3	3	1	0
Zest	1	3	1	0	0	0
Love	1	1	3	2	0	1
Kindness	0	0	3	2	0	1
Social intelligence	2	0	3	3	0	0
Teamwork	0	1	3	3	0	1
Fairness	1	0	3	3	1	0
Leadership	3	3	2	3	1	1
Forgiveness	2	0	3	2	2	1
Humility	0	0	2	1	3	0
Prudence	2	0	0	0	2	0
Self-regulation	0	1	0	0	3	0
ABE	2	0	1	0	0	3
Gratitude	1	1	3	2	1	2
Hope	1	3	0	1	0	2
Humor	1	1	3	1	0	0
Spirituality	0	0	1	0	0	3

Note. ABE = Appreciation of Beauty and Excellence. 3/0: Perfect agreement, all/none of three studies (the two studies in the present manuscript and Ruch & Proyer, 2015) suggested this assignment; 2: Partial agreement, two out of the three studies suggested this assignment; 1: No agreement, one out of the three studies suggested this assignment.

Table 8

Correlations Among Predictions on What Strengths Belong to the Same Category Based on Theoretical Models, Empirical Studies on Virtue Assignment, and Factor Analytic Studies.

	Ruch & Proyer (2015)					
		Study 1	Study 2	Ruch et al. (2010)	McGrath (2014)	McGrath (2015)
Peterson & Seligman (2004)	.55	.43	.26	.31	.09	.13
Ruch & Proyer (2015)		.72	.55	.19	.00	.10
Study 1			.34	.11	-.03	.07
Study 2				.31	.07	.03
Ruch et al. (2010)					.44	.19
McGrath (2014)						.40

Note. For the factor analytic studies (5-factor model: Ruch et al., 2010; McGrath, 2014; 3-factor model: McGrath, 2015), the assignment was based on the highest loading of a strength on a virtue.